REMARKS

Applicant acknowledges with appreciation the Examiner's finding that claims 31 and 44 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 27, 28, 30 and 40 have been rejected under 35 U.S.C. § 103 as allegedly being obvious over U.S. patent 5,513,854 to Daver (hereinafter "Daver") in view of U.S. Published Patent Application No. 2005/0203367 to Ahmed et al. (hereinafter "Ahmed"). Claims 29, 32-34, 38-39, 41-43, 45-47 and 51 have been rejected under 35 U.S.C. § 103 as allegedly being obvious over the combination of Daver, Ahmed, and U.S. patent 7,098,888 to Temkin et al. (hereinafter "Temkin"). Claims 35-36 and 48-49 have been rejected under 35 U.S.C. § 103 as allegedly being obvious over the combination of Daver, Ahmed, and Gianpolo U. Carraro, John T. Edmark, J. Robert Ensor, *Techniques for Handling Video in Virtual Environments*, Proceedings of the 25th Annual Conference on Computer Graphics and Interactive Techniques SIGGRAPH '98 (hereinafter "Carraro"). Claim 37, 50 and 52 have been rejected under 35 U.S.C. § 103 as allegedly being obvious over the combination of Daver, Ahmed, and U.S. patent 6,348,953 to Rybczynski (hereinafter "Rybczynski"). Applicant respectfully traverses these rejections.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the

prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); MPEP 2143. Here, the Examiner has failed to establish a prima facie case of obviousness because Daver, Ahmed, Temkin, Carraro, and Rybeznski independently or in combination does not teach or suggest all the claim limitations of amended independent claims 27 and 40 and thus included in dependent claims 28-39 and 41-52.

Applicant respectfully submits that only the present invention teaches or suggests a method and a system for enabling real-time mixing of synthetic and video images by a user, as required in claims 27-52. The present invention uses features specific to the generation of synthetic images in a graphic board to optimize the calculation and the process involved in combining synthetic and video images. The synthetic images are obtained by combining three-dimensional geometric shapes with textures, which are two-dimensional images. Additionally, only the present invention teaches or suggests "tracing a scene by creating visual interactions between said flow of synthetic images and at least a flow of video images," as required in independent claims 27 and 40. Further, only the present invention teaches or suggests "copying, upon each rendering of said scene, said video buffer into said memory zone of said graphic board" so that video images are considered as texture when mixing synthetic and video images, as required in independent claims 27 and 40.

Daver relates to a system for tracking video image of players to add graphic symbols representing a ball. But, contrary to the Examiner's assertion, Daver does not teach or suggest "real-time mixing of synthetic and video images," as required in claims 27-52 of the present invention. One of ordinary skill in the art would not equate mapping 2-D textures around 3-D images with "producing a flow of synthetic images by combining three-dimensional geometric shapes with textures of two-dimensional images," as erroneously suggested by the examiner. Such production flow of synthetic

images advantageously enable the user of the present invention to mix the synthetic and video images in real-time.

The prior must to be judged based on a full and fair consideration of what that art teaches, not by using Applicants invention as a blueprint for gathering various bits and modifying the pieces in an attempt to reconstruct Applicant's invention. The Examiner cannot simply change the principle of the operation of the reference to render the claims unpatentable. Accordingly, it is submitted that the Examiner has succumbed to the lure of prohibited hindsight reconstruction.

Additionally, contrary to the Examiner's assertion, Daver does not teach or suggest "tracing said scene by creating visual interactions between said flow of synthetic images and at least a flow of video images," as required in amended independent claims 27 and 40. In fact, col. 3, lines 41-44 in Daver, cited by the Examiner, merely describe "generating a sequence of successive [video] images." One of ordinary skill in the art would not equate generating sequence of successive video images with creating visual interaction between synthetic and video images as erroneously suggested by the Examiner. Applicants respectfully submit that the Examiner cannot use hindsight gleaned from the present invention to contradict the clear teaching of the prior art reference to render claims unpatentable.

Further, contrary to the Examiner's assertion, Daver does not teach or suggest using a graphic board for rendering and displaying the scene, as required by the claims of the present invention. In fact, col. 6, lines 14-19 in Daver, cited by the Examiner, merely describes "These synthetic images are obtained by having graphic symbols representing the ball and the players move on the monitor of the multimedia computer; the movements of said graphic symbols being slaved to the actual movements of the ball and the players as detected by the position acquisition devices." Nowhere in this cited passage does

Daver suggest or teach using a graphic board. Applicants respectfully submit that the Examiner cannot use hindsight gleaned from the present invention to contradict the clear teaching of the prior art reference to render claims unpatentable.

Moreover, as admitted by the Examiner, Daver does not teach or suggest "performing a specific rendition of said scene by copying, upon each rendering of said scene, said video buffer into said memory zone of said graphic board," as required in independent claim 27 (and similarly in independent claim 40). To cure this deficiency, the Examiner turns to Ahmed.

Ahmed describes a system for aiding a surgeon in performing operation. A head mounted stereo display can be used for displaying a combination of microscope binocular images and computer generated images, the respective image intensity of the images being adjustable by a video mixer. Ahmed's video mixer is a device separate and external to the computer, and it is used for combining two or more video signals. Whereas, the present invention requires real-time mixing of synthetic and video images using devices within the computer, i.e., a motherboard and a graphic board. Hence, contrary to the Examiner's assertion, Ahmed cannot possible suggest or teach "copying, upon each rendering of said scene, said video buffer into said memory zone of said graphic board," as required in independent claim 27 (and similarly in independent claim 40), because Ahmed's video mixer is external to the computer and it does not utilize the graphic board of the computer to combine multiple video signals. Applicants respectfully submit that the Examiner cannot use hindsight gleaned from the present invention to contradict the clear teaching of the prior art reference to render claims unpatentable.

"To imbue one of ordinary skill in the art with knowledge of the present invention, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim of the insidious effect of hindsight syndrome, wherein that which only the

inventor taught is used against the teacher." W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983). In the present case, the combination of Daver and Ahmed does not teach or suggest (1) "producing a flow of synthetic images by combining three-dimensional geometric shapes with textures of two-dimensional images;" (2) "tracing a scene by creating visual interactions between said flow of synthetic images and at least a flow of video images;" and (3) "copying, upon each rendering of said scene, said video buffer into said memory zone of said graphic board," as required in claims 27-52.

Accordingly, applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness because the combination of Daver and Ahmed does not teach or suggest all of the required elements of independent claims 27 and 40. Hence, it follows that the combination of Daver and Ahmed does not render obvious independent claims 27 and 40, or any of claims 28-39 and 41-52 dependent on claims 27 and 40.

Furthermore, none of the cited references are directed to the problem solved by the present invention. It is undeniable that neither Daver, Ahmed, Temkin, Carraro, nor Rybczynski is directed to the problem solved by the present invention, providing a method and a system for enabling real-time mixing of synthetic and video images by a user. The mere fact that the prior art can be modified does not make the modification obvious unless there is a reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed in the present invention. One of ordinary skill in the art would not have combined unrelated art such as, Daver and Ahmed, as suggested by the Examiner. Daver relates to a system for tracking athletes equipped with radio transmitters, while Ahmed relates to a guide system for surgery.

Even assuming *arguendo* that the combination of Daver and Ahmed is proper, such combination would not result in the present invention. As noted herein, the combination of Daver and Ahmed does not teach or suggest (1) "producing a flow of synthetic images by combining three-dimensional geometric shapes with textures of two-dimensional images;" (2) "tracing a scene by creating visual interactions between said flow of synthetic images and at least a flow of video images;" and (3) "copying, upon each rendering of said scene, said video buffer into said memory zone of said graphic board," as required in claims 27-52.

Therefore, the Examiner has failed to establish a *prima facie* case of obviousness because (1) the combination of Daver and Ahmed, or additionally in view of either Temkin, Carraro, or Rybczynski does not teach or suggest all the claim limitations of the present invention, (2) there is no motivation to combine Daver with Ahmed, and (3) even if one of ordinary skill in the art combines Daver with Ahmed, and/or further with either Temkin, Carraro, or Rybczynski, such combinations still would not result in the present invention (i.e., no expectation of success). Accordingly, applicant respectfully requests these rejections be withdrawn.

Statements appearing above in respect to the disclosures in the cited references represent the present opinions of the applicant's undersigned attorney and, in the event that the Examiner disagrees with any of such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the reference providing the basis for a contrary view.

In view of the above, applicant believes the pending application is in condition for allowance.

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Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0624, under Order No. NY-GRYN 213-US (10500363) from which the undersigned is authorized to draw.

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Respectfully submitted,

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